Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services	)	CC Docket No. 92-115

To: The Commission

Comments of Petroleum Communications, Inc.

Petroleum Communications, Inc. ("PetroCom"), by its attorneys and pursuant to Section 1.415 of the Rules, hereby submits its comments in response to the Commission's Notice of Proposed Rulemaking (CC Docket No. 92-115), FCC 92-205, released June 21, 1992 ("NPRM"). In support hereof, the following is shown:

Statement of Interest

1. PetroCom is the licensee of Domestic Public Cellular Radio Telecommunications Service Station KNKA411, the Frequency Block A cellular system serving the Gulf of Mexico Service Area (the "Gulf of Mexico" or "the Gulf"). PetroCom thus has an interest in any proposed changes to Part 22 of the Rules insofar as they relate to the operation of cellular systems in the Gulf of Mexico and adjacent land-based markets.

Proposed Rule 22.913(b) Does Not Take Into Consideration The Unique Needs Of The Gulf Cellular Carriers And Should Be Revised

2. PetroCom's comments are confined to proposed Rule 22.913(b), the height-power limit for cellular systems. The proposed regulation specifies, in relevant part, that "[t]he ERP of base transmitters must not exceed the amount that would result in an average distance to the service area boundary of 41.5 kilometers (26 miles)." The proposed regulation appears to have been drafted with reference to the computation of reliable service areas over the land in accordance with the 32 dBu contour standard adopted by the Commission's Second Report and Order (CC Docket No. 90-6), 70 R.R.2d 846 (1992) for use by land-based cellular carriers and reflected in Section 22.911(a)(1) of the proposed Rules as set forth in the NPRM. As such, proposed Rule 22.913(b), as presently drafted, does not distinguish between cellular systems serving the land and those serving the Gulf and, therefore, needs to be revised to take into account radio signal propagation in the Gulf.

3. The Commission has expressly recognized that radio signals travel farther over large bodies of water that over the land. In its Further Notice of Proposed Rulemaking (CC Docket No.90-6), 6 FCC Rcd. 6158 (1991), the Commission proposed to amend the cellular rules to require all cellular carriers to reduce their Cellular Geographic Service Areas ("CGSAs") to be coterminous with their outer composite

reliable service area contours, as defined using new coverage calculation formulas. Two new formulas were proposed -- one to predict coverage over land and a second to predict coverage in the Gulf of Mexico. A separate coverage calculation formula was proposed for the Gulf because "propagation characteristics over water are different than for land based systems."[1] The Commission also invited the submission of other coverage calculation formulas for the Gulf "which may further our objective of establishing a realistic estimate of actual reliable service coverage."[2] Put simply, reliable service areas over the Gulf will be larger than reliable service areas over the land, and the Commission has sought to promulgate accurate formulas for the two respective operating environments. In response to the Commission's request for comments, PetroCom and RVC Services, Inc. d/b/a Coastel Communications Company ("Coastel") (the Frequency Block B cellular carrier serving the Gulf), proposed the use of a 28 dBu contour standard for computing reliable service areas in the Gulf, calculated using the following formula:

$$d = 3.0\ (H^{0.3} \times P^{0.15})^{34}$$

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[1] 6 FCC Rcd. at 6159.

[2] 6 FCC Rcd. at 6160.

[3] In this formula, "d" is the distance from the cell site antenna to the reliable service area in miles; "H" is the antenna height above average terrain in feet; and "P" is the effective radiated power in watts.

Rule 22.911(a)(2), as set forth in the NPRM, incorporates the proposed PetroCom/Coastel formula converted to metric measurements.[5]

4. However, the enhanced range of radio signal coverage in the Gulf is not reflected by proposed Rule 22.913(b). The average antenna radiation center height for PetroCom's system is 148 feet with an average Effective Radiated Power ("ERP") of 92 Watts. Under the proposed Rule 22.913(b), as presently drafted, all but one of PetroCom's existing cell sites would be in violation of the antenna height-power limit. The ultimate effect of applying the proposed Rule 22.913(b) 41.5 kilometer standard to the Gulf cellular carriers would be to reduce their reliable service areas. Stated another way, the Gulf carriers would be unable to operate at sufficiently high ERPs to claim the full coverage area that they are entitled to serve under proposed Rule 22.911(a)(2).

5. As reflected in the attached Engineering Attestation of Tom L. Dennis, P.E., Rule 22.913(b) should be revised to set forth different antenna height-power limits for land-

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[4] See Comments of PetroCom and Coastel in CC Docket No. 90-6, filed January 16, 1992.

[5] The formula to be used to compute reliable service areas in the Gulf of Mexico is not at issue in this proceeding. The formula will be adopted by the Commission in the CC Docket No. 90-6 proceeding. See NPRM, pg. 17.

based cellular carriers and the Gulf cellular carriers. Insofar as the Gulf carriers are concerned, the 41.5 kilometer standard should be changed to an 81.4 kilometer standard. Thus, the following sentence should be added to proposed Section 22.913(b) of the Rules: "For cells transmitting in the Gulf of Mexico, the ERP of base transmitters must not exceed the amount that would result in an average distance to the service area boundary of 81.4 kilometers (50.6 miles)."

Respectfully submitted,

Petroleum Communications, Inc.

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Dated: October 5, 1992

ENGINEERING ATTESTATION

I have reviewed the Commission's Notice of Proposed Rulemaking (CC Docket NO. 92-115), FCC 92-205, released June 21, 1992. Specifically addressing paragraphs 22.911(a) and 22.913(b), it is noted that applying the height-power limitation of 22.913(b), as proposed, would impose a serious hardship on the Gulf of Mexico service providers.

Exhibit 1 shows curves of the maximum ERP versus antenna height for the land and Gulf service providers, based on omni-directional antennas, if the NPRM were adapted as stated in paragraph 22.913(b).

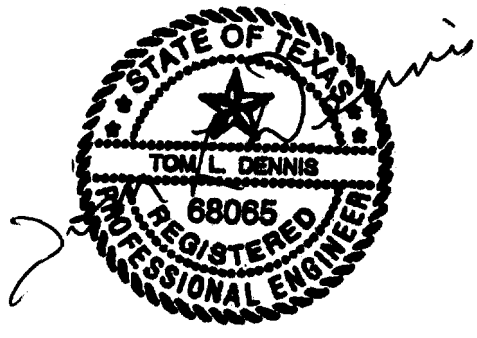
Recognizing that propagation is greatly enhanced over seawater, it may be shown that to put the Land and Gulf service providers on an equal footing (for antenna height and ERP) that the distance to contour for the Gulf carriers should be 81.4 kilometers or 50.6 miles.

Exhibit 2 is a plot of the antenna height and ERP limitation for both the land and water service providers if the height-power limit is set to 41.5 kilometers for land and 81.4 kilometers for water service providers.

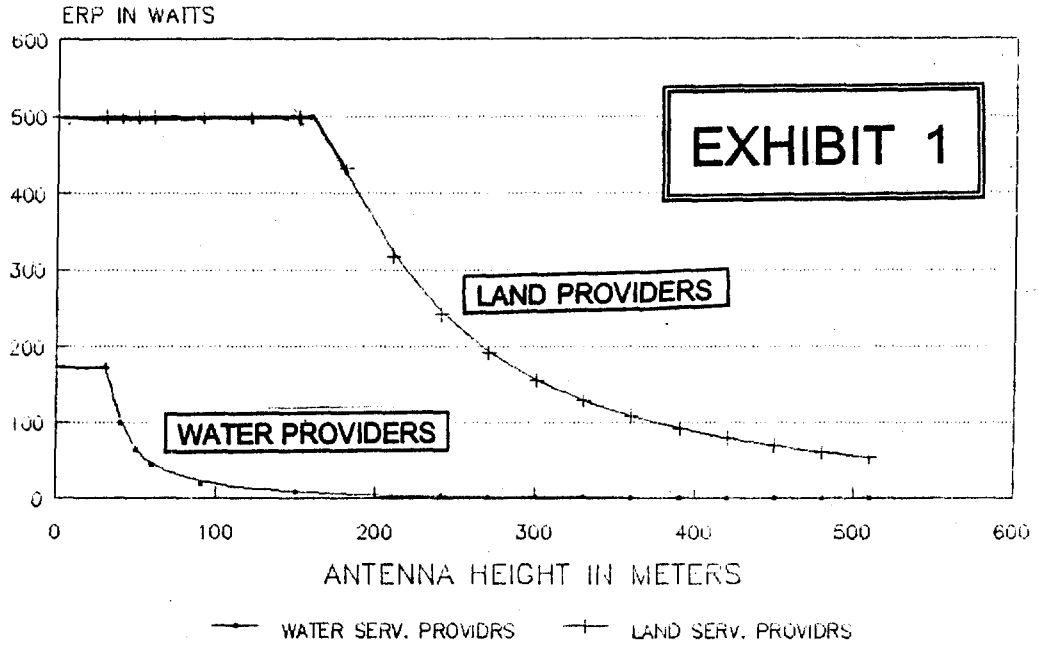
It is known that there are no tall towers in the Gulf of Mexico and that there should be no reason to limit a cell site to a 41.5 km radius.

I declare under penalty of perjury that the foregoing is true and correct to the best of my belief and knowledge.

Tom L. Dennis, P.E.

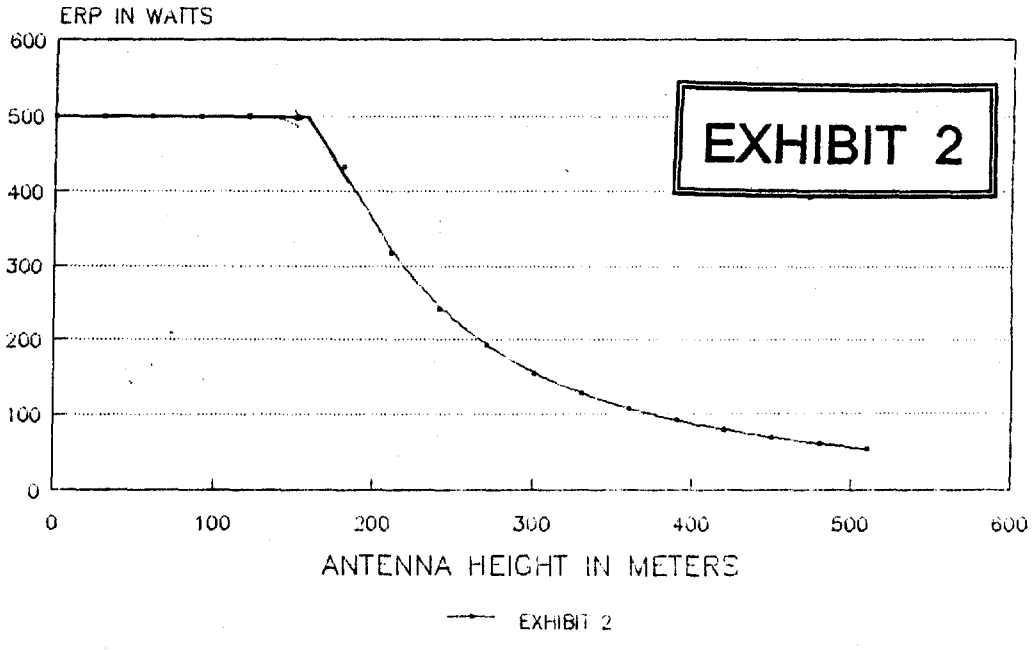


MAX. ERP VS. ANTENNA HEIGHT
(PER THE RULES PROPOSED IN NPRM 92-205)



APPLIES TO OMNI ANTENNAS ONLY

MAX. ERP VS. ANTENNA HEIGHT
(WATER AND LAND WITH PROPOSED REVISION)



APPLIES TO OMNI ANTENNAS ONLY